

# Oracle Financial Services Crime and Compliance Studio

Among the most challenging aspects of instituting effective anti-money laundering and anti-fraud programs at financial institutions is the need to adapt quickly to changing patterns of financial crime. The ability, therefore, to continually discover and model new criminal behavioral patterns, coupled with the facility to rapidly deploy these models, is a critical requirement. Graph analytics and machine learning are essential methods for pattern discovery, and are most effective when applied over the data in a comprehensively designed, enterprise-wide financial crimes data lake. Oracle Financial Services Crime and Compliance Studio is designed from the ground up to enable data scientists to rapidly discover and model financial crime patterns.

## Purpose-built for the detection of financial crimes

As false positive reduction continues to be the priority for financial institutions, a judicious combination of advanced techniques such as financial network visualization, transaction flow analytics and machine learning must be at the disposal of financial crimes data scientists. Oracle Financial Services Crime and Compliance Studio is an integrated workbench for financial crime data scientists, providing a comprehensive analytics toolkit along with secure access to the institution's financial crime data. With seamless access to production data in a secure and isolated discovery sandbox, pre-defined scenarios and out-of-the-box graph queries and visualizations, data scientists gain an accelerated path to interactively explore financial crime data.

## Portal into the financial crimes data lake

Institutions realize that effective discovery also requires that all of the financial institution's transactions, accounts, alerts and other financial crime-related data be brought into an analytical data lake. Engineered as a portal into the enterprise's financial crime data lake, Oracle Financial Services Crime and Compliance Studio automatically loads data from the Financial Crime Data Model into the data lake, significantly reducing the time and effort data scientists spend in preparing data for analysis. Data scientists may also 'mash up' Oracle's Financial Crime Data Model data with third-party data in the data lake for discovery and modeling.

Oracle Financial Services Crime and Compliance Studio is tested with leading distributions of open source Apache Hadoop and Apache Spark, enabling quick integration with existing data lake infrastructure technology.

## Key benefits

- Drive data scientist productivity with a unified tool for machine learning, graph analytics, and AML scenario authoring.
- Fully integrated with Oracle Financial Crime and Compliance Management application data and readily usable across the enterprise financial crime data lake.
- Leverage existing knowledge of open source tools such as Apache Spark, Apache Zeppelin, R and Python.
- Easily discover and visualize new patterns with SQL-like graph query language.

## Integrated development environment combining graph analytics, machine learning and scenario authoring

Effective criminal pattern discovery and detection requires the application of a variety of techniques. Oracle Financial Services Crime and Compliance Studio provides a single, unified workbench for graph analytics, data visualization, machine learning and scenario authoring and testing for financial crime data.

- **Oracle Parallel Graph Analytics:** Succinctly express complex money movement patterns, detect multi-hop relationships, and identify hubs and spokes of activity using 30+ supplied graph algorithms and a built-in SQL-like query language. Oracle Financial Services Crime and Compliance Studio includes a highly scalable, in-memory graph analytics engine (Oracle PGX).
- **In-database and in-cluster machine learning:** Publish machine learning notebooks in R and Python. Use open source packages in R, Python, Spark ML or Oracle's optimized libraries for machine learning, such as Oracle R Enterprise and Oracle Advanced Analytics for Hadoop.
- **Polyglot scenario authoring:** Author and deploy new anti-money laundering and fraud detection scenarios or test existing scenarios with what-if analysis. Scenarios can be written in SQL, Scala, Python or R.
- **Data visualization:** Visualize data in the Oracle Financial Crimes Data Model or mash FCCM data with external data and query data using SQL or PGQL (graph query) languages.

### Key features

- Comprehensive data science toolkit with support for graph analytics, network visualization and machine learning.
- Pre-built notebook library for financial crime use cases.
- Use SQL-like graph query language.
- Compatible with Apache Zeppelin.
- Integrated with Oracle Financial Crime and Compliance Management applications.
- Includes a highly scalable, in-memory Oracle Graph Analytics Engine (PGX).

## Leverage existing infrastructure investments

Apache Zeppelin and Jupyter notebooks are the de facto standard development tools for data scientists; Apache Spark is the most prevalent analytics engine on big data. Oracle Financial Services Crime and Compliance Studio leverages these open technologies and standards, thereby minimizing the need to re-train data scientists. Furthermore, the ability to use popular data science languages such as R, Python, SQL and Scala serves to increase modeler productivity.

Oracle Financial Services Crime and Compliance Studio is engineered to work with earlier 8.x releases of Oracle Financial Crime and Compliance Management Anti-Money Laundering and Fraud applications, reducing the need to upgrade existing environments and reducing the overall cost.

## About Oracle Financial Crime and Compliance Management

Oracle Financial Crime and Compliance Management is a family of analytical applications with comprehensive coverage of money laundering, financial fraud and onboarding compliance needs. Along with Oracle Financial Services Crime and Compliance Studio, this family of applications includes Oracle's best-in-class, integrated Anti-Money Laundering, Enterprise Case Management, Know Your Customer, Transaction Filtering, Customer Screening, Enterprise Fraud, and Trading and Broker Compliance applications.

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